PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Yakima/Klickitat Fisheries Project Design And Construction

BPA project number: 8811525
Contract renewal date (mm/yyyy): 1/2000 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Yakama Indian Nation

Business acronym (if appropriate) YIN

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses
7.4K, 7.4K.1, 7.3B, 7.4A

FWS/NMFS Biological Opinion Number(s) which this project addresses
NMFS Biologcial Opinion for the 1995 to 1998 Hatchery Operations in the Columbia River Basin (NMFS 1995a), BPA's Biological Assessment of 1997-2001 Hatchery Operations of the Proposed Cle Elum Hatchery, December 1995 (BPA 1995). NMFS letter dated 4/1/96

Other planning document references
1. Yakima Fisheries Project Final Environmental Impact Statement (1/96)
2. Yakima Fisheries Project Spring Chinook Supplementation Monitoring Plan (Busack et al, 1997).
3. Wy Kan Ush Me Wa Kush Wit, Vol 1: pp 5A-2; 5B-13 through 5B-12; Vol 2: pp57 &59.
4. NPPC Yakima and Klickitat Subbasin Plans
5. The ISRG's Return to the River (Williams et al. 1996) -- Restoration of Salmonid Fishes in the Columbia River Ecosystem: Chapter 2.

Short description
Design/construction re:
1. Cle Elum: a) M&E Facility, b) Interpretative Center c) Employee Housing
2. Prosser: a) Rearing/Settling Ponds, b) Employee Housing c) Alternative Water Supply
3. Klickitat: Design of Lyle Trap

Target species
Yakima and Klickitat Subbasin spring chinook, fall chinook, coho and steelhead.

Section 2. Sorting and evaluation

Subbasin
Yakima and Klickitat

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☐ Operation & maintenance ☒ New construction ☐ Research & monitoring ☐ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20510	Yakima/Klickitat Fisheries Project
8812025	YKFP Project Management, Data and Habitat (YIN)
9506325	YKFP Monitoring and Evaluation
9701725	YKFP Operations and Management
9506404	YKFP Project Management (WDFW)

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9200220	Physiological assessment of wild and hatchery juvenile salmonids	Physiological/developmental monitoring of hatchery and wild spring chinook juveniles (parr/smolt)
5510200	Yakima River side channel survey and rehabilitation	Complementary habitat enhancement in upper Yakima
5510800	Upper Yakima tributary irrigation improvement	Restores passage to tributaries blocked by irrigation diversions.
5510900	Teanaway River instream flow restoration	Complementary adult passage project (NF Teanaway is an acclimation/release site).
9705100	Yakima Subbasin side channel	Juvenile salmonid rearing habitat.
9100	Re-establish safe access into tributaries of Yakima Subbasin	Improve juvenile salmonid passage and rearing.
9101	Restore upper Toppenish Creek watershed	Improve juvenile salmonid passage and rearing.
9102	Ahtanum Creek watershed assessment	Improve juvenile salmonid passage and rearing.
9603501	Satus Cr. watershed restoration	Improve juvenile salmonid passage and rearing.
9506404	WDFW Policy/Technical Involvement/Planning YKFP	Co-Managers, YKFP
9105500	Supplementation Fish Quality (Yakima Subbasin)	NMFS contract to develop rearing treatment alternativcs to increase hatchery fish

		survival.
9200900	Yakima screens phase II O & M	Basin juvenile salmonid passage
9705600	Lower Klickitat ripairian & in-channel habitat enhancement project.	Critical habitat enhancement and information sharing.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1997	Final design and construction of Cle Elum Supplementation and Research Facility (CESRF).	
1998	Scheduled final design and construction of CESRF acclimation sites at Easton, Clark Flats, and Jack Creek.	
1997	Final design and construction of Prosser Fish Facility's used for coho and fall chinook spawning, incubation, and rearing.	
1994	Final design and construction of Roza Adult Fish Monitoring and Broodstock Collection Facility.	
1987	Final design, construction and modification of the Chandler Juvenile Fish Monitoring Facility.	
1987	Final design, and construction of the adult video monitoring facilities at Prosser and Roza dams (1987-1992).	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	To provide permanent facilities within the Yakima Subbasin to support and meet the overall production and monitoring and evaluation goals of the Project.	a	Design and construct a Research, Monitoring and Evaluation Facility for data synthesis and analysis and to accommodate field crew and equipment space needs.
		b	Design an interpretive center at Cle Elum Supplementation Research Facility to provide information to the public about the Project.
		c	Design and construct employee housing at the Cle Elum Supplementation and Research Facility and Prosser Hatchery.
		d	Design and construct rearing and acclimation ponds for fall chinook and coho.
		e	Design and construct settling pond at Prosser Hatchery.
		f	Design and construct alternate river water source system at Prosser Hatchery.
2	To provide adult broodstock collection, monitoring, and improved passage to accomplish Project goals within the Klickitat Subbasin.	a	Final engineering and design of adult collection facility and passage modifications at Lyle Falls.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	1/2000	12/2000			95.50%
2	1/2000	12/2000			4.50%
				Total	100.00%

Schedule constraints
Potential constraints include NEPA compliance and weather delays

Completion date
2048

Section 5. Budget

FY99 project budget (BPA obligated): $3,379,097

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%0	
Fringe benefits		%0	
Supplies, materials, non-expendable property		%0	
Operations & maintenance		%0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Design and construction of Research/M&E facility & employee housing at Cle Elum & Prosser hatcheries	%61	950,000
NEPA costs		%6	100,000
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel		%0	
Indirect costs		%0	
Subcontractor	Summit Technology	%4	65,000
Subcontractor	To be determined: Contractor for design of the interpretive center at Cle Elum	%6	100,000
Subcontractor	To be determined: Contractor for design and construction of facilities at Prosser Hatchery	%22	350,000
Other		%0	
		TOTAL BPA FY2000 BUDGET REQUEST	$1,565,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
		%0	
		%0	
		%0	
		%0	
		Total project cost (including BPA portion)	$1,565,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$1,600,000	$4,570,000	$2,000,000	$400,000

Section 6. References

Watershed?	Reference
☐	
☐	
☐	
☐	

PART II - NARRATIVE

Section 7. Abstract

The Yakima/Klickitat Fisheries Project (YKFP) is a long-term effort to increase natural production and harvest opportunity of salmon and steelhead in the Yakima and Klickitat subbasins using a mix of supplementation and habitat improvements. The ultimate scope of the project potentially includes all stocks historically present in both basins. Currently, stock-specific plans are at widely differing levels of development: Yakima coho and fall chinook programs are in early feasibility stages, while Yakima steelhead and all Klickitat programs involve habitat/life history inventory and stock-status monitoring. The most complete program, and the focus of the most intense monitoring, is the upper Yakima spring chinook supplementation program (Busack et al. 1997).

The objective of the construction project sub-proposal is to design and construct facilities required to meet the overall goals and objectives of the YKFP. Specifically, the proposed design and construction work at the CESRF will provide a research/M&E facility for Project data syntheses and analyses. Furthermore, this proposal covers the design and construction of additional residences for CESRF and Prosser Hatchery employees. Also, this proposal covers essential rearing and acclimation facilities at Prosser and Marion Drain. In the Klickitat Subbasin, this proposal covers the design of adult monitoring and broodstock collection facilities and passage improvements at Lyle Falls. Finally, this proposal covers design of an interpretive center at CESRF.

Section 8. Project description

a. Technical and/or scientific background

Meaningful restoration of salmon and steelhead runs in the Columbia ultimately requires a return to "normative" conditions throughout the Basin (Williams et al. 1996), or at least to a much more normative state. Because of the enormous societal obstacles and economic costs that constrain it, such an effort will take decades to implement and additional decades to take effect. Therefore stopgap measures, such as supplementation, are required to maintain fish runs for the foreseeable future. Although we are in the process of planning habitat restoration for future implementation by sister projects, the current focus of the YKFP is primarily on supplementation.

As noted in the YKFP's M&E sub-proposal (Project # 9506325), supplementation is a cornerstone of efforts to rebuild salmon and steelhead runs throughout the Columbia Basin (RASP 1992; NPPC 1994; CRITFC 1995). Yakima and Klickitat subbasin salmonid populations may be optimal candidates for supplementation. All design and construction outlined in this proposal facilitates the implementation of objectives and goals outlined for the Project (see YKFP *Umbrella* Proposal). These facilities are necessary for the production of fish in a manner consistent with the supplementation strategies and experimental designs of the Project.

Some activities under this sub-proposal were approved in the original plan for the Cle Elum Supplementation and Research Facility (CESRF). These include the construction of the research and M&E facility and the design of the interpretive center. Additional expenses within this sub-proposal include the construction of housing for employees at CESRF and Prosser Hatchery. Analysis of the housing markets in these areas indicate that it would be less expensive in the long-term to construct on-site housing instead of renting in the local market. Additionally, on-site personnel reduce the risk of loss due to catastrophic events or vandalism. Expenditures to improve the Prosser Hatchery Facility include construction of rearing/acclimation ponds, settling ponds, and an alternative Yakima River water supply to provide facility water . These facilities are required to culture fall chinook and coho for testing the feasibility of fall chinook supplementation and coho re-introduction.

An adult salmonid monitoring and broodstock collection facility in the lower Klickitat is critical to Project goals and objectives for the Klickitat Subbasin. The completion of on-going engineering and design work for Lyle Falls meets this need based on its location in the lower watershed, and the presence of an existing fish passage structure. However, the current structure is inadequate for adult broodstock collection, monitoring, and passage during low flow periods. Therefore, substantial modifications to the existing structure are warranted. The engineering and design will guide Project modifications at Lyle Falls that will remedy existing deficiencies.

b. Rationale and significance to Regional Programs

The Yakima/Klickitat Fisheries Project was identified in the 1982 Columbia River Basin Fish and Wildlife Program (Measure 704(i)(3) and 904(e)(1). A draft Master Plan was presented to the Northwest Power Planning Council in 1987 and the Preliminary Design Report in 1990. In both cases the NPPC instructed the managers (YIN and WDFW) to carry out planning functions that addressed uncertainties in regard to the adequacy of supplementation in the areas of meeting production objectives and limiting adverse ecological and genetic impacts. At the same time, the Council underscored the importance of adaptive management of the project. Therefore, design and construction of critical facilities is a key component of achieving the objectives and goals of the Project. The YKFP is unique in having been designed to rigorously test the efficacy of supplementation.

c. Relationships to other projects

This project and the following three other FWP projects comprise the component projects of the Yakima/Klickitat Fisheries Project umbrella project:
Project 8812025, "YKFP Management, Data and Habitat"
Project 9701725 "YKFP Operations and Maintenance"
Project 9506325, "YKFP Monitoring and Evaluation"
Project 9506404, "Policy/Technical Involvement and Planning for YKFP (WDFW)".
This project is necessary for the implementation of YKFP monitoring activities being undertaken by YIN and WDFW.

Ten additional FWP habitat improvement projects in the Yakima subbasin relate to this project as they will influence the quality of the environment the fish encounter. Projects 5510200, "Yakima River Basin Side Channel Survey and Rehabilitation". These projects attempt to correct one of the most serious environmental problems in the upper Yakima: the lack of fry rearing habitat provided by side channels. Projects 5511300, 5511600, and 5511700 are intended to accomplish the same thing in other portions of the Yakima Subbasin. Projects 5510800 ("Upper Yakima Tributary Irrigation Improvement") and 5510900 ("Teanaway River Instream Flow Restoration") both attempt to restore adult and juvenile passage to upper Yakima tributaries dewatered or blocked by irrigation diversions. The Teanaway project is especially important because an acclimation site will be located on the North Fork of the Teanaway River. Finally, projects 9105700, 9107500, 9209900 and 9503300 provide funds for the WDFW Yakima screen shop and the Yakima Project Office of the Bureau of Reclamation (BOR) to build and maintain screens on irrigation diversions and to maintain fisheries monitoring and enhancement facilities (fish ladders, the Chandler and Roza smolt traps, the Roza adult trap, etc.) owned by the BOR.

d. Project history (for ongoing projects)

As a result of the umbrella project structure of the YKFP, this project is a consolidation of several earlier YKFP construction projects:

The Yakima Klickitat Fisheries Project ("YKFP or Projecf') was first approved by the Northwest Power Planning Council ("NPPC or Council") in 1982. At that time, the Council envisioned the Project as a cluster of production facilities in both the Yakima and Klickitat River Basins designed to enhance the fishery for the Yakama Indian Nation ("YIN") and other harvesters. The development of the Project's master plan began in 1985. By that time, however, the Council had modified the purpose of the Project to include research activities testing the assumption that new supplementation methods could increase natural production while protecting the genetic resources common to the river basins. The Council also determined that the principles of adaptive management, which encourages an affirmative pro-active response to research discoveries, were to be
utilized by the resource managers selected to manage the YKFP. These managers are the YIN and the Washington Department of Fish and Wildlife (WDFW").

As recommended and directed by the Council, the Project's master plan, which included a supplementation research program, was conceived and developed. On October 15, 1987, the Council approved the YKFP's master plan, which included the construction of the production and acclimation facilities in the Upper Yakima River Basin commonly referred to as the Upper Yakima Supplementation Complex ("UYSC or Complex"). Consistent with the NPPC's Columbia River Basin Fish and Wildlife Program ("Program") Measure 7.4K. 1, the Project's Preliminary Design Report was completed in 1990. At that time, an Environmental Assessment (EA) was prepared for YKFP construction activities and facility operations throughout the Yakima and Klickitat River Basins.

In 1992, the Project began the process of preparing an Environmental Impact Statement ("EIS"). During the EIS's preparation period, the Council endorsed the managers proposal to "tier" the Project's production and research activities by bringing them online in gradual stages. The first phase (tier) targeted the supplementation of depressed populations of upper Yakima river spring chinook. This initial phase also

included research designed to determine the feasibility of re-establishing a naturally spawning population and a significant fall fishery of coho salmon in the Yakima Basin. Future phases of the YKFP include the supplementation of fall chinook and steelhead, and a reintroduction of now extirpated stocks. Also envisioned for the Project's future is the introduction of supplementation to the Klickitat Basin, which could include the use of the Klickitat Hatchery, a Mitchell Act facility now operated by WDFW.

By design, the supplementation of summer steelhead and fall chinook populations in the Yakima basin was not detailed in the initial EIS. Research activities focused upon the Klickitat River fisheries also fell outside its scope. However, they remain essential components of the Project. At this time, fall chinook, steelhead and the Klickitat basin are the subjects of on-going research activities designed to determine whether the YKFP will support the introduction of additional anadromous fish stocks into its production and research programs.

The Project's EIS was completed in 1996, and the Record of Decision ("ROD") was signed by BPA's Administrator and Chief Executive Officer, Randall W. Hardy, on March 13, 1996. With the completion of the EIS and the signing of the ROD, construction of the YKFP's Cle Elum Supplementation and Research Facility ("Cle Elum Facility") began in May of 1996. The Cle Elum Facility was completed on August 1, 1997. The UYSC also includes three acclimation facilities to be constructed in the Upper Yakima basin. Thus far, the YIN, as the Project's Lead Agency and the UYSC's operator, has captured 240 adult spring chinook at the Roza adult collection facility. Egg taking and fertilization procedures were performed in September 1997. 450,000 eggs were fertilized and incubated at the facility. Funding for the continued operation and maintenance of the UYSC has been approved by the Council and included in Program Measure 7.4K. 1.

Earlier YKFP project numbers included under the Council's Fish and Wildlife plan are as follows:

82-016 - YAKIMA RV. SPRING CHINOOK ENHANCEMENT STUDY - YIN
85-062 - PASSANGE IMPROVEMENT EVALUATION - BPNL
86-045 -YAKIMA HATCHERY PRE-DESIGN - CLE ELUM PROJECT - NMFS
86-101 -FILMING FOR PROJECT RECORD - MOVING PICTURES INC.
87-135 -YAKIMA HATCHERY - MASTER PLAN DEVEL - YIN
87-136 -YAKIMA HATCHERY - WAPATO CANAL PEN REARING - YIN
87-414 -YAKIMA ANADROMOUS FISH A/V - JOHN CAMPBELL
88-120 -YAKIMA NAT. PROD. & ENHANCEMENT PROG. - YIN
88-120-01 -YAKIMA/KLICKITAT FISHERIES PROJECT MGMT. - YIN
88-120-02 -YAKIMA ENGINEER ASSISTANCE - YIN
88-120-03 -YAKIMA SPECIES INTERACTION - YIN
88-120-04 -HATCHERY TRAINING AND EDUCATION - YIN
88-120-05 -FISH PASSAGE VIDEO MONITORING - YIN
88-120-06 -YAKIMA FISHERIES TECHNICIANS - YIN
88-120-07 -YAKIMA SPRING CHINOOK NATURAL PROD. - YIN
88-120-08 -FISHERIES TECHNICIAN FIELD ACTIVITIES - YIN
88-120-09 -STEELHEAD AND FALL CHINOOK PROD. OBJECTIVES - YIN
88-123 -YAKIMA HATCHERY COORDINATION - ROZA IRRIGATION DISTRICT
88-149 -YAKIMA HATCHERY - WATER ANALYSIS - BOR
88-167 -YAKIMA HATCHERY ECONOMIC STUDY - CWU
89-082 -YAKIMA HATCHERY - EXPERIMENTAL DESIGN - WDFW
89-083 -YAKIMA HATCHERY - EXPERIMENTAL DESIGN - WDFW
89-089 -YAKIMA/KLICKITAT RADIO TELEMENTRY STUDY - NMFS
89-100 -YAKIMA HATCHERY ENVIRONMENTAL ASSESS. REVIEW - BPNL
89-105 -YAKIMA - SPECIES INTERACTION STUDY - WDFW
90-058 -YAKIMA HATCHERY - PROJ. LEADER FUNCTION - SAMPSEL CONS.
90-062 -CLERICAL SERVICES-YAKIMA PROJECT - PENNYS FROM HEAVEN
90-065 -CHANDLER JUVENILE TRAP CALIBRATION - NMFS
90-069 -YAKIMA HATCHERY - FINAL DESIGN - CH2M HILL
90-045 -YAKIMA ADULT/JUVENILE TRAPPING FINAL DESIGN - BOR

91-048 -EVAL. OF ENV. IMPACTS OF YAKIMA PROD. PROG. - BPNL
91-055 -SUPPLEMENTATION FISH QUALITY (YAKIMA) - NMFS
91-059 -FOOD ABUNDANCE YAKIMA RV TROUT, STLHD, CHINOOK - CWU
92-021 -EXPERIMENTAL DESIGN DEVELOPMENT - CWU
94-037 -YAKIMA BIO SPEC INTERFACE - HATCHERY OP CONSULTING
94-036 -ECONOMIC IMPACT ANALYSIS YAKIMA RV BASIN - CWU
94-040 -QUANTITATIVE PROD. OBJ. FOR YAKIMA FALL CH. & STLHD - MOBRAND
95-055 -UPDATE OF YAKIMA FISH PROJECT ECONOMIC ANALYSIS - CWU
95-062 -YAKIMA/KLICKITAT FISH. PROJECT ADAPT. MGMT. -
95-063 -YAKIMA/KLICKITAT MONT. AND EVAL. PROGRAM -
95-064 -YAKIMA FISHERIES PROJECT SCI. MGMT SERVICES - WDFW
95-064-01 -REFINEMENT OF MARKING METHODS FOR YKFP - WDFW
95-064-02 -UPPER YAKIMA RIVER SPECIES INTERACTION STUDIES - WDFW
95-064-03 -GENETIC MGMT. FRAMEWORK FOR YAKIMA SP. CHINOOK - WDFW
95-064-04 -POLICY/TECHNICAL INVOLVEMENT AND PLANNING - WDFW
95-064-05 -FURTHER DEVEL. OF NIT/LNIT REARING STRATEGY FOR YKFP – WDFW
95-068 -KLICKITAT PASSAGE/HABITAT PRELIMINARY DESIGN - YIN

BONNEVILLE PROJECT SPECIFIC SUPPORT
88-034 -ENGINEERING SUPPORT --YAKIMA HATCHERY (also 92-029,91-080) - BPA
88-115 -YAKIMA HATCHERY CONSTRUCTION – BPA
88-115-11 CLARK FLAT ACCLIMATION
88-115-12 EASTON ACCLIMATION
88-115-13 JACK CREEK ACCLIMATION
88-115-14 ACCLIMATION SITE CONSTRUCTION
89-042 -ENGINEERING SERVICES PREL. DESIGN S&S FACIL -
89-043 -YAKIMA HATCHERY - PRELIMINARY ENGINEERING -
89-093 -BPA CONSTRUCTION SUPPORT FOR YAKIMA HATCHERY - BPA
93-081 -BPA LANDS SUPPORT FOR YAKIMA HATCHERY - BPA
95-037 -SUPPORT FROM FACILITIES DESIGN - BPA
95-038 -SUPPORT FROM CONSTRUCTION SERVICES - BPA
95-040 -SUPPORT FROM REAL ESTATE - BPA
95-061 -SUPPORT FOR ENVIRONMENTAL ANALYSIS -
95-069 -YAKIMA/CLE ELUM LAND PURCHASE -

Other related contracts:

WDF54000316-CONSTRUCTION OF PROSSER ACCLIMATION-YIN
96-BI94521-1-CONSTRUCTION INCUBATION/OFFICE-YIN
96-BI94521-2-MARION DRAIN ACCLIMATION-YIN
96-BI94521-3-MARION DRAIN INTAKE PUMP BOX/ELECTRICAL-YIN

A summary of Project reports and technical papers can be found in the YKFP's Final EIS (January 1996). All major research results are include in those reports. Hardcopies of these reports are in the possession of BPA's Fish and Wildlife Program.

Because the YKFP is attempting to mitigate for effects on declining natural resources in a complicated, large-scale ecosystem without a full understanding of its complexities, the Project managers believe the principles of adaptive management to be particularly appropriate tools. By incorporating them into the Project's scientific method, the managers expect to achieve Project goals while protecting the basin's fishery resources from unforeseen, adverse Project impacts.

In applying adaptive management, actions by YKFP managers will respond to a set of agreed-upon objectives. These actions are designed as experiments to test hypotheses regarding their outcome: to see

whether the predicted result occurs or whether some other result occurs. Carefully designed to obtain valid (i.e., statistically reliable) results, the experiments are conducted, monitored and evaluated to allow statistical evaluation of the results. New experimental insights are used to modify or discard ineffective strategies, to improve underlying theory and, when necessary, to revise objectives to conform with perceived possibilities. Informed Project scientists and managers may modify programs, procedures, and facilities in response to these findings, even if it means drastic changes to a program. Thus risks to the ecosystem are realized and addressed in the Project's annual planning cycle (described in detail below), which will annually examine the capacity and constraints of the stock and stream system, as well as the performance of hatchery fish, testing and revising a theory of supplementation. The rearing and release of each new group of smolts will represent an experimental test of the latest revision of the theory.

e. Proposal objectives

Objective:	Products:
1. To provide permanent facilities within the Yakima Subbasin to support and meet the overall production and monitoring and evaluation goals of the Project.	• Research and M&E Building at Cle Elum. • CESRF Interpretive Center Final Design • CESRF Employee Housing • Prosser Rearing/acclimation Ponds • Prosser Facility Settling Ponds • Prosser Facility Employee Housing • Alternative Water Source for Prosser Facility
2. To provide adult broodstock collection, monitoring, and improved passage to accomplish Project goals within the Klickitat Subbasin.	Final Design for Lyle Falls: • Adult Broodstock Collection Facility • Adult Monitoring Facility • Adult Passage Modifications

f. Methods

All construction and design activities we propose here will be performed in a manner consistent with industry standards and local building codes.

g. Facilities and equipment

Project support for the design and construction work outlined in this proposal will be performed under the YKFP Project Management sub-proposal (8812025). It is not anticipated that additional facilities and equipment will be acquired for completing these projects.

h. Budget

The research and Monitoring and Evaluation building and the interpretive center were considered and approved in the original plan for the Cle Elum Supplementation and Research Facility (CESRF). This funding will allow for the construction of the research and M&E facility and the design of the interpretive center. Additional expenses listed represent the construction of additional housing for employees at CESRF and Prosser Hatchery. Other expenditures represent construction of rearing/acclimation ponds, settling ponds, and an alternative Yakima River water supply for Prosser Hatchery respectively. These facilities are required to culture fall chinook and coho for testing the feasibility of fall chinook supplementation and coho re-introduction.

The expenditures for the Klickitat subbasin represent the completion of engineering and design work for Lyle Falls. An adult salmonid monitoring and broodstock collection facility in the lower Klickitat is critical to Project goals and objectives. Lyle Falls meets this need based on its location in the lower watershed, and the presence of an existing fish passage structure. However, the current structure is

inadequate for adult broodstock collection, monitoring, and passage during low flow periods. Therefore, substantial modifications to the existing structure are warranted. The engineering and design will guide Project modifications at Lyle Falls that will remedy existing deficiencies.

Section 9. Key personnel

YKFP management personnel and BPA will select contractors for design and construction activities.

Section 10. Information/technology transfer

Information resulting from this sub-proposal will be distributed in the following ways:

- A construction completion report will be submitted to BPA.
- The final design for the CESRF interpretive center will be submitted to the Project managers and BPA.
- The final design for the Klickitat Lyle Falls adult broodstock collection and monitoring facility will be submitted to the Project managers and BPA.

Congratulations!